



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

# GUARANTY INVESTMENT COMPANY

**CAPITAL \$250,000.**

Offices: Atchison, Kan. 191 Broadway, New York. 222 Walnut St., Phila.

Hon. ALBERT H. HORTON (Chief Justice, Kansas Supreme Court), Topeka, Kan., Pres't.

## 7% Guaranteed Farm Mortgages 7%

The Guarantee Investment Company makes loans upon fertile farms in the choicest portions of Kansas and Nebraska and has adopted the policy of sending a Committee of its Investors each year to examine its loans and methods of business.

The Committee this year consisted of PROF. A. H. BERLIN, Principal of the High School Montrose, Pa., and MAJ. THEODORE L. POOLE, Ex-U. S. Pension Agent, Syracuse, N. Y. Both of these gentlemen are persons of the highest character and have the confidence of the Communities in which they reside.

The Committee has recently returned and has made a very interesting Report upon the general development of Kansas and Nebraska as well as the business of the Company. The Company will be glad to send this Report to any address.

The following names are taken from the long list of Investors in our Mortgages:

(See if Some Friend of Yours is not in the List.)

William A. Cauldwell, 59 Liberty St., N.Y.  
Palmer Cox, 658 Broadway, N.Y.  
Rev. Jos. H. Ryland, D.D., 11 Livingston Place, N.Y.  
Rev. Brady E. Backus, D.D., 36 West 28th St., N.Y.  
Rev. R. M. Sommerville, 126 West 45th St., N.Y.  
Dr. Robert A. Murray, 235 West 23rd St., N.Y.  
Dr. James P. Tuttle, 136 West 41st St., N.Y.  
H. Edwards Rowland, 218 Fulton St., N.Y.  
Irving H. Tift, Esq., 271 Broadway, N.Y.  
Prof. D. G. Eaton, 55 Pineapple St., Brooklyn, N.Y.  
Dr. F. P. Thwing, 156 St. Marks Ave., Brooklyn, N.Y.  
Dr. C. C. Miles, Greenport, N.Y.  
John V. N. Bergen, Port Jefferson, N.Y.  
Benj. W. Stilwell, Yonkers N.Y.

R. C. Coleman, Goshen, N.Y.  
Mrs. Samuel Carlisle, Newburg, N.Y.  
Dr. C. C. Bartholomew, Ogdensburg, N.Y.  
Rev. Nelson Millard, D.D., Rochester, N.Y.  
Rev. Horace G. Hinsdale, D.D., Princeton, N.J.  
Dr. Charles M. Howe, Passaic, N.J.  
George A. Skinner, 5 Railroad Place, Newark, N.J.  
Dr. Edwin M. Howe, 85 Halsey St., Newark, N.J.  
Dr. H. G. Buckingham, Clayton, N.J.  
Dr. Martin Cole, Jr., Hainesville, N.J.  
Mortgage Trust Co. of Pa., Philadelphia, Pa.  
Miss Mary Miller, 1230 Spruce St., Philadelphia, Pa.  
Henry D. Biddle, 311½ Walnut St., Philadelphia, Pa.

Dr. Calvin C. Halsey, Montrose, Pa.  
Rev. William Baldwin, Great Bend, Pa.  
Gen. William Lilly, Mauch Chunk, Pa.  
Second Nat. Bank, Mauch Chunk, Pa.  
Enos E. Thatcher, West Chester, Pa.  
Mrs. Townsend Poore, Scranton, Pa.  
Rev. Burdett Hart, D.D., New Haven, Conn.  
Dr. Frank H. Wheeler, New Haven, Conn.  
Charles R. Christy, Stamford, Conn.  
Mrs. Catharine P. Fuller, Woodmont, Conn.  
Miss Jessie Henderson, Lenox, Mass.  
Dr. M. J. Halloran, Worcester, Mass.  
Albert Walker, Bennington, Vt.

Address for Report and Monthly Bulletin

**HENRY A. RILEY, General Eastern Manager, 191 Broadway, N.Y.**

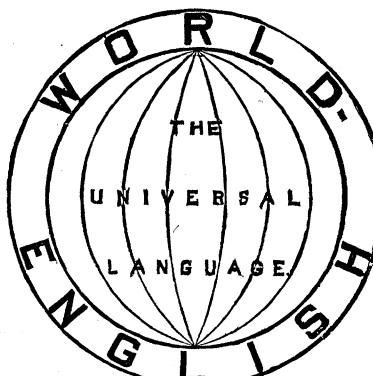
## ONE LANGUAGE FOR THE WHOLE WORLD.

### WORLD-ENGLISH :

THE UNIVERSAL LANGUAGE. 25 CENTS.

EVERY one has heard of the butcher who, after a long search for his knife, at last found it in his mouth: so speakers of English have been seeking for a universal language, when, lo! it is in their mouths. The intelligibility of English words has been obscured by a dense mist of letters. This is now dispersed by A. Melville Bell, who has already won a world-wide reputation through his invention of "Visible Speech," the great boon to deaf-mutes. Professor Bell calls this new discovery of his "World-English," and the result is a language which cannot fail to meet with acceptance, and at once supersede the supposed necessity for "Volapük," or any other artificial language. No language could be invented for international use that would surpass English in grammatical simplicity, and in general fitness to become the tongue of the world. It is already the mother-tongue of increasing millions in both hemispheres, and some knowledge of the language is demanded by all educated populations on the globe. Social and commercial necessities require that the acquisition of this knowledge shall be facilitated, and it is believed that Professor Bell's invention has removed the last impediment to English becoming the universal language, for which vague desires have long been entertained, although hitherto only futile efforts have been made.

Ex-President Andrew D. White, of Cornell University, says: "I believe that the highest interests of Christian civilization and of humanity would be served by its adoption. China and Japan would be made English-speaking peoples within fifty years, and so brought within the range of Christianizing and civilizing ideas, in the largest sense. All existing missionary work is trivial as compared with this. For your system would throw wide open those vast countries, as, indeed, all the countries of the world, to the whole current of English and American thought."



For Diffusion of English throughout the World

AS

### THE UNIVERSAL LANGUAGE

This "Hand-Book of World-English" is the Complete, Simple, and Efficient Medium.

### FOREIGNERS

Will Acquire, by Means of this Hand-Book, a  
**PERFECT PRONUNCIATION OF ENGLISH.**

For Primary School Pupils and Illiterate Adults

World-English is a Royal Road to Reading.

To Teachers of English and Modern Languages

This Hand-Book will be of Primary Importance  
as a Phonetic Directory.

### DEFECTS OF SPEECH

Will be Readily Corrected by Means of the Articulative Directions in this Hand-Book.

### HAND-BOOK OF WORLD-ENGLISH,

25 CENTS.

The plan of this little book is altogether new. Letters and sounds are so associated, in all the exercises, that from the mere knowledge of letters a learner cannot fail to pronounce words with certainty. English reading will thus be easily acquired, whether by natives or foreigners, children or adults.

The general resemblance of World-English to Literary English is such that any reader of the latter deciphers the former at sight, or, at most, after a few minutes' study of the new letters. A like result may be anticipated for those who shall learn to read from World-English. They will transfer their power of reading to the literary form of the language, almost without effort. The orthographic aspect of words will, besides, be so fixed in the eye, by contrast, that spelling will be remembered as — what it really is — a pictorial association with words.

No special training is required to qualify teachers for using this book. The subject can even be successfully introduced in the kindergarten and the nursery. This phonetic mode of initiation in reading cannot be too strongly urged on the attention of School Boards on both sides of the Atlantic.

The ordinary orthography of each word is interlined with the World-English version throughout the Exercises and Readings.

So set down, our tongue is the best for the world to unite upon.—*Brooklyn Eagle*.

The idea of Mr. Bell has much to recommend it, and the presentation is charmingly clear.—*American Phila.*

The result is a language which cannot fail to meet with acceptance.—*Boston Traveller*.

Has the merit of great ingenuity.—*Railway Age*.

His treatise, as a study of English orthoepy, condenses the result of much thought and experience in small compass.—*The Critic*.

World-English deserves the careful consideration of all serious scholars.—*Modern Language Notes*.

World-English is the English language unburdened of its chaotic spelling.—*Popular Science Monthly*.

We commend it to the attention of teachers.—*Ottawa Globe*.

"World-English" and "Hand-Book of World-English" can be had of all booksellers, or will be sent for 50 cents, post free, by the publisher,

**N. D. C. HODGES, 47 Lafayette Place, New York**

*Schools.*

The Sauveur Summer College  
OF  
LANGUAGES.

(Removed from Amherst, Mass., and Oswego, N.Y.,  
to BURLINGTON, VT.)

The Normal Class will be taught for the French by Dr. Sauveur, for the German by Dr. W. Bernhardt, for the Latin by Prof. J. U. Dillard. Fourteenth Session: July 8 to August 16.

Dr. Sauveur's new work, *LES CHANSONS DE BERANGER*, with *Historical Commentary and Notes*, will be ready June 1, and taught at the School. For Circulars address

DR. L. SAUVEUR,

Copley Terrace, Roxbury, Boston, Mass.

N.B.—Circulars of Dr. L. SAUVEUR Educational Works will be sent free to applicants.  
[Mention this paper.]

CONNECTICUT, NEW HAVEN,  
MRS. CADY'S SCHOOL FOR YOUNG LADIES.  
Prepares for Smith and Wellesley, and admits to Vassar by Certificate. Circulars. Early application necessary.

INDIANA, TERRE HAUTE.

ROSE POLYTECHNIC INSTITUTE.—A School of Engineering. Well endowed, well equipped departments of Mechanical and Civil Engineering. Electricity, Chemistry, Drawing. Extensive Shops & Laboratories. Expenses low. For catalogue address T. C. Mendenhall, Pres.

NEW JERSEY, PLAINFIELD.

THE CHESTNUTS.—Parents with daughters to educate, or orphan girls with companion, may find a comfortable home, with school instruction by applying to Miss E. E. Kenyon.

Any one who will have the following blank filled out by a responsible Newsdealer, and mailed to us, will be allowed a three months' subscription to *Science*.

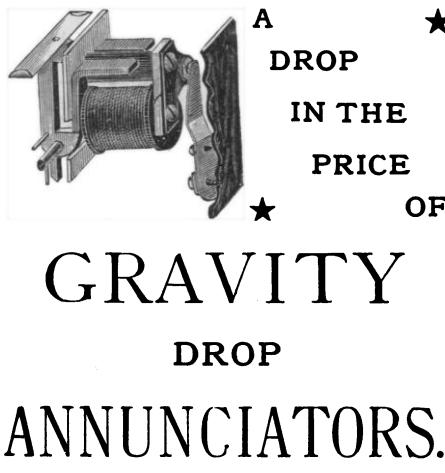
N. D. C. HODGES,  
47 LAFAYETTE PLACE, NEW YORK.

★ SCIENCE CLUBBING RATES.

10% DISCOUNT.

We will allow the above discount to any subscriber to *Science* or *The Swiss Cross* who will send us an order for periodicals exceeding \$10, counting each at its full price.

	Year's Subscription.	With Science.	With The Swiss Cross.
Agricultural Science.....	\$ 2.50	\$ 5.30	\$ 4.50
American Agriculturist.....	1.50	4.30	2.50
American Analyst.....	1.00	4.25	2.25
American Architect and Building News.....			
Imperial edition.....	10.00	12.80	11.00
Gelatine ".....	7.00	9.80	8.00
Regular ".....	6.00	8.80	7.00
American Garden.....	1.00	4.25	2.25
American Journal of Philology.....	3.00	6.25	4.25
American Machinist.....	2.50	5.30	4.50
American Magazine.....	3.00	5.80	4.00
American Naturalist.....	4.00	7.50	5.50
Andover Review.....	4.00	6.80	5.00
Atlantic.....	4.00	6.80	5.00
Babyhood.....	1.50	4.30	2.50
Babylon.....	.50	3.75	1.75
Bradstreet's.....	5.00	7.80	6.00
Brain.....	3.50	6.30	4.50
Building (weekly).....	6.00	8.80	7.00
Carpentry and Building.....	1.00	4.25	2.25
Century Magazine.....	4.00	6.80	5.00
Chautauquan, The.....	1.50	4.30	2.50
Christian Union, The.....	3.00	5.80	4.00
Christian Weekly, Illustrated.....	2.50	5.30	3.50
Cosmopolitan, The.....	2.00	4.80	3.00
Critic.....	3.00	5.80	4.00
Eclectic Magazine.....	5.00	7.80	6.00
Edinburgh Review.....	4.00	6.80	5.00
Electrical World.....	3.00	5.80	4.00
Electrician and Electrical Engineer.....	3.00	5.80	4.00
Electric Review.....	3.00	5.80	4.00
Engineering and Mining Journal.....	4.00	6.80	5.00
English Illustrated Magazine.....	1.75	4.55	2.75
Forest and Stream.....	4.00	6.80	5.00
Forum, The.....	5.00	7.80	6.00
Godey's Lady's Book.....	2.00	4.80	3.00
Harper's Bazaar.....	4.00	6.80	5.00
Harper's Magazine.....	4.00	6.80	5.00
Harper's Weekly.....	4.00	6.80	5.00
Harper's Young People.....	2.00	4.80	3.00
Health and Home.....	1.00	4.25	2.25
Herald of Health.....	1.00	4.25	2.25
Illustrated London News (Amer. reprint).....	4.00	6.80	5.00
Independent, The.....	3.00	5.80	4.00
Inter Ocean, The.....	1.00	4.25	2.25
Iron Age (weekly).....	4.50	7.30	5.50
Journal of Philology (Eng.).....	2.50	5.30	3.50
Journal of Speculative Philosophy (begins with Jan. No.).....	3.00	5.80	4.00
Judge.....	4.00	6.80	5.00
L'Art.....	12.00	14.80	12.00
Life.....	5.00	7.80	6.00
Lippincott's Magazine.....	3.00	5.80	4.00
Littell's Living Age.....	8.00	10.80	9.00
Little Men and Women.....	1.00	4.25	2.25
London Quarterly.....	4.00	6.80	5.00
Macmillan's Magazine.....	3.00	5.80	4.00
Magazine of American History.....	5.00	7.80	6.00
Medical and Surgical Journal.....	5.00	7.80	6.00
Mechanical Engineer.....	2.00	4.80	3.00
Metal Worker.....	1.00	4.25	2.25
Microscope, The.....	1.00	4.25	2.25
Nature.....	6.00	8.80	7.00
New Princeton Review.....	3.00	5.80	4.00
North American Review.....	5.00	7.80	6.00
Outing.....	3.00	5.80	4.00
Overland Monthly.....	4.00	6.80	5.00
Pansy.....	1.00	4.25	2.25
Political Science Quarterly.....	3.00	5.80	4.00
Popular Science Monthly.....	5.00	7.80	6.00
Popular Science News.....	1.00	4.25	2.25
Portfolio, The.....	7.50	10.30	8.50
Practitioner.....	3.50	6.30	4.50
Public Opinion.....	3.00	5.80	4.00
Puck.....	5.00	7.80	6.00
Puck (German).....	5.00	7.80	6.00
Quarterly Review (London).....	4.00	6.80	5.00
Querries.....	1.00	4.25	2.25
Rural New-Yorker.....	2.00	4.80	3.00
St. Nicholas.....	3.00	5.80	4.00
School Journal.....	2.50	5.30	3.50
Scientific American.....	3.00	5.80	4.00
Supplement.....	5.00	7.80	6.00
Architect and Builders' edition.....	2.50	5.30	3.50
Scribner's Magazine.....	3.00	5.80	4.00
Southern Cultivator.....	1.50	4.30	2.50
Springfield Republican (weekly).....	1.00	4.25	2.25
Sunday School Times.....	2.00	4.80	3.00
Teachers' Institute.....	1.25	4.05	2.25
Texas Siftings.....	4.00	6.80	5.00
Trained Nurse.....	1.50	4.30	2.50
Treasure-Trove.....	1.00	4.25	2.25
Truth Seeker, The.....	3.00	5.80	4.00
Wide Awake.....	2.40	5.20	3.40
Young Folks' Journal.....	1.00	4.25	2.25



DON'T FORGET THE  
DUST-PROOF BELLS.

HAZAZER & STANLEY,  
32 Frankfort Street, N. Y.

1889.

To the \_\_\_\_\_ News Company.

You may add to my regular order five copies of *SCIENCE* each week (returnable).

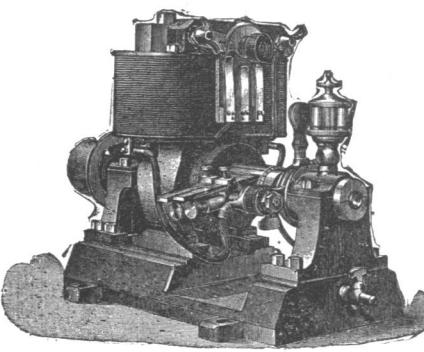


ENGRAVING FOR  
ALL ILLUSTRATIVE  
AND ADVERTISING  
PURPOSES  
67-71 PARK PLACE  
NEW YORK

N. D. C. HODGES,  
47 Lafayette Place,  
New York.

# C. & C. ELECTRIC MOTOR COMPANY.

**Electric Motors**  
FOR  
**Arc and Incandescent Circuits, Most Economical Motor on the Market.**  
**Regulation Perfect.**  
**Motors Designed for all Power Purposes.**



**OFFICE and MANUFACTORY:**  
402 and 404 Greenwich Street, New York City.

New England Office, 19 Pearl St., Boston.

Philadelphia Office, 301 Arch St.

Western Office, 139-141 Adams Street Chicago.

Southern Office, 25 Carondelet Street New Orleans.

"The Week, one of the ablest papers on the continent." — *Descriptive America*.

ENLARGED AND IMPROVED.

## THE WEEK:

*A Canadian Journal of Politics, Literature, Science and Arts.*

PUBLISHED EVERY FRIDAY.

\$3.00 per Year.

\$1.00 for Four Months.

THE WEEK has entered on its SIXTH year of publication, greatly enlarged and improved in every respect, rendering it still more worthy the cordial support of every one interested in the maintenance of a first-class literary journal.

The independence in politics and criticism which has characterized THE WEEK ever since its first issue will be rigidly maintained; and unceasing efforts will be made to improve its literary character and increase its value and attractiveness as a journal for the cultured home. Many new and able writers are now, or have promised to become, contributors to its columns, and the constant aim of the Publisher will be to make THE WEEK fully equal to the best literary journals in Britain and the United States.

As heretofore, PROF. GOLDWIN SMITH will, from time to time, contribute articles. London, Paris, Washington and Montreal letters from accomplished correspondents will appear at regular intervals. Special Ottawa Letters will appear during the sessions of Parliament.

THE WEEK in its enlarged form will be the same size as "Harpers' Weekly," and the largest paper of its class on the continent.

SEND FOR FREE SAMPLE COPY.

**C. BLACKETT ROBINSON,** Publisher,  
5 Jordan St., Toronto.

Publications received at Editor's Office,  
April 29-May 4.

MICHIGAN State Board of Health, Sixteenth Annual Report of the Secretary of the, for the Fiscal Year ending June 30, 1888. Lansing, State. 328 p. 8°. POWELL, J. W. Seventh Annual Report of the United States Geological Survey to the Secretary of the Interior, 1885-86. Washington, Government. 656 p. 4°.

RAUB, C. G. Psychology as a Natural Science, applied to the Solution of Occult Psychic Phenomena. Philadelphia, Porter & Coates. 541 p. 8°. \$3.50. SEYMOUR, T. D. A Concise Vocabulary to the First Six Books of Homer's Iliad. Boston, Ginn. 105 p. 12°. 80 cents.

SIX Species of North American Fresh-Water Fishes. Washington, D.C., Smithsonian Inst. 18 p. ff. UNITED STATES, Tenth Census of the, 1880. Vol. XXI. Defective, Dependent, and Delinquent Classes. Washington, Government. 581 p. 4°.

— Same. Vol. XXII. Power and Machinery employed in Manufactures, and the Ice Industry. Washington, Government. 4°.

VENN, J. The Principles of Empirical or Inductive Logic. London and New York, Macmillan. 594 p. 8°. \$4.50.

WARING, Mrs. Clark. The Lion's Share. Chicago, New York, and San Francisco, Belford, Clarke, & Co. 73 p. 12°.

WENTWORTH, G. A., MCLELLAN, J. A., and GLASHAN, J. C. Algebraic Analysis. Part I. Boston, Ginn. 418 p. 12°. \$1.60.

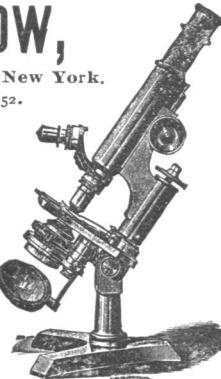
## Scientific Apparatus.

### J. GRUNOW,

621 Sixth Avenue, New York.  
Established 1852.

MAKER OF

Microscope Stands,  
Oil Immersion Objectives and Abbe Condensers for Bacterial and Histological work, of Objectives, Camera Lucida and other accessory apparatus.



### MORRIS EARLE & CO.

SUCCESSORS TO

### R. & J. BECK,

1016 Chestnut Street Phila

Microscopes and all Accessories and Apparatus. Photographic and Photo-Micrographic Apparatus and Outfits.

Spectacles, Eye Glasses, Opera and Marine Glasses, etc.

Illustrated Price List made free to any address. Mention SCIENCE in corresponding with us.



### E. & H. T. ANTHONY & CO.

59 Broadway, N.Y.

Manufacturers and Importers of

### PHOTOGRAPHIC INSTRUMENTS,

Apparatus and Supplies of every description. Sole proprietors of the Patent Detective, Fairy, Novel, and Bicycle Cameras, and the Celebrated Stanley Dry Plates.

Amateur Outfits in great variety, from \$9.00 upward. Send for Catalogue or call and examine. More than 40 years established in this line of business.

### GOOD NEWS TO LADIES.

Greatest inducements ever offered. Now's your time to get up orders for our celebrated Teas and Coffees, and secure a beautiful Gold Band or Moss Rose China Tea Set, Dinner Set, or Webster's Dictionary. For full particulars address THE GREAT AMERICAN TEA CO., P. O. Box 299, 31 and 33 Vesey St., New York.

### A TEMPORARY BINDER

for Science is now ready, and will be mailed postpaid on receipt of price.

Half Morocco - 75 cents.

This binder is strong, durable and elegant, has gilt side-title, and allows the opening of the pages perfectly flat. Any number can be taken out or replaced without disturbing the others, and the papers are not mutilated for subsequent permanent binding. Filed in this binder, Science is always convenient for reference.

### N. D. C. HODGES,

47 Lafayette Place, N. Y.

### Readers of Science

Corresponding with or visiting Advertisers, will confer a great favor by mentioning this paper.

## ELECTRICAL TESTING BUREAU,

Johns Hopkins University, Baltimore, Md.

Resistance Coils and Boxes Compared. Am meters and Volt meters calibrated. Condensers standardized.

Primary and Secondary Batteries Tested. Efficiency of Dynamos and Motors Determined.

Insulation of Cables and Wires Tested. Etc., Etc.

Circulars describing Methods Used, Prices, Etc., sent on Application. Address as above.



*Arnold,*  
*Constable & Co.*  
**COTTON DRESS STUFFS.**

D. & J. ANDERSON'S

CELEBRATED

**ZEPHYRS,**  
 for beauty of texture, coloring and durability, are unsurpassed.

**FRERES KOECHLIN'S**  
 Crepe Cloths, Marie Antoinettes.  
 Printed Sateens, Toile-a-Voile.

Broadway & 19th st.  
 New York.

## COLORED SILKS

We have just made one purchase of 35,000 yards of Plain Colored Silks, 19 inches wide, in 40 different shades. The entire lot has been placed this week in our Retail Silk Department. The price is 65 cts. per yard; the goods are fully worth 95 cts.

We know of no occasion when so large a quantity and so excellent a quality of Colored Silks has been offered at retail in New York City, for so little money.

Samples sent on request.

**JAMES MCCREERY & CO.**  
 BROADWAY AND ELEVENTH STREET,  
 NEW YORK.

**IMPROVING THE MEMORY PICK**

and facilitating the acquirement of knowledge by lectures and correspondence. Classes forming "MEMORY and its Doctors," from Simonides to "Loiselet," mailed for 10 cents.

DR. PICK, 24 Union Square, N. Y. City.

## FOOD ADULTERATION

And its Detection. With photomicrographic plates and a bibliographical appendix. By J. P. Battershall. 328 pages, 8vo, cloth. Price, \$3.50. Circulars and Catalogues on application. E. & F. N. SPON,  
 12 Cortlandt St., New York.

**A NEW MAGAZINE—THE SWISS CROSS**  
 Devoted to spreading a love of nature among the people. Edited by HARLAN H. BALLARD, President of the Agassiz Association, and succeeding *St. Nichol's* as the official magazine of that body. \$1.50 a year. Sample copy 10 cents, or 25 cents for trial subscription for 3 months.

N. D. C. HODGES, PUBLISHER,  
 Mention this paper. 47 Lafayette Place, New York.

## The Mutual Life Insurance Company OF NEW YORK.

RICHARD A. McCURDY, PRESIDENT.

**ASSETS - - - \$126,082,153 56**

The Largest and best Life Insurance Company in the World.

The New Business of the Mutual Life Insurance Company in 1888  
 Exceeded \$103,000,000.

Its Business shows the Greatest Comparative Gain made by any Company during the past year including

A gain in assets of.....	\$ 7,275,301 68
A gain in income of.....	3,096,010 06
A gain in new premiums of .....	2,333,406 00
A gain in surplus of.....	1,645,622 11
A gain in new business of.....	33,756,792 85
A gain of risks in force.....	54,496,251 85

## The Mutual Life Insurance Company

Has Paid to Policy-holders since Organization \$272,481,839 82.

### Wants.

A YOUNG MAN can have lucrative engagement, not only a fixed salary, but according to his work accomplished in travelling for SCIENCE. A personal interview invited.

N. D. C. HODGES,  
 47 Lafayette Place, New York.

### Readers of Science

Corresponding with or visiting Advertisers will confer a great favor by mentioning the paper.



### KIMBALL'S STRAIGHT CUT CIGARETTES.

Unsurpassed in quality.  
 Used by people of refined taste.  
 Highest award at Brussels, 1888.  
 The finest smoking mixtures are of our manufacture.  
 Fifteen First Prize Medals.  
 W. M. S. KIMBALL & CO.,  
 Rochester, N.Y.

## SCOTT'S EMULSION OF PURE COD LIVER OIL AND HYPOPHOSPHITES

Almost as Palatable as Milk.

Containing the stimulating properties of the Hypophosphites combined with the Fattening and Strengthening qualities of Cod Liver Oil, the potency of both being largely increased.

A Remedy for Consumption.

For Wasting in Children.

For Scrofulous Affections.

For Anæmia and Debility.

For Coughs, Colds & Throat Affections.

In fact, ALL diseases where there is an inflammation of the Throat and Lungs, a WASTING OF THE FLESH, and a WANT OF NERVE POWER, nothing in the world equals this palatable Emulsion.

**SOLD BY ALL DRUGGISTS.**

### Old and Rare Books.

One Million Magazines. Back numbers, vols. and sets—old and new, Foreign and American.

CATALOGUE UPON APPLICATION.

A. S. CLARK,

34 Park Row, New York City.

BACK NUMBERS and complete sets of leading Magazines. Rates low. AM. MAG. EXCHANGE, Schoharie, N.Y.

H. WILLIAMS,

Dealer in Old Magazines, Reviews, &c. Scientific periodicals a specialty. 39 Macdougal St., N.Y.